

## **TROPICAL RAINFALL MEASURING MISSION**

**March 27, 2000 - April 2, 2000**

**DOY 087 - 093**

**Day of Mission 851 - 857**

### **TRMM MISSION OPERATIONS**

- TRMM is flying in the -X Forward direction as of 00-091, at 05:12:21z.
- Yaw maneuver #40 is scheduled for April 20th (00-111).
- Delta-V maneuver #178 is scheduled for April 3rd (00-094), using the ISP thrusters.
- The Beta angle range for 00-094 through 100 is -9.9° to -26.4°.
- The next Monthly Status Review is scheduled for 00-095.
- The next CCB meeting is scheduled for 00-101.

### **TRMM SUBSYSTEM OPERATIONS**

#### **Attitude Control System (ACS)**

Delta-V maneuver #176 was successfully conducted on 00-089 at 16:16:33z and 17:02:21z for durations of 48.625 and 23.500 seconds respectively, using the LBS thrusters. The off-modulation of the -Yaw thruster (#1) for burn 1 was 7.5% (92.5% on time). The off-modulation of the +Pitch thruster (#2) for burn 1 and 2 was 26.7% and 26.1% (73.3% and 73.9% on time). The remaining fuel is 606.578 kg, and the final apogee and perigee height is 354.69 km x 347.51 km.

There was a Yaw maneuver from the +X to -X direction on 00-091 at 05:12:21z.

Delta-V maneuver #177 was successfully conducted on 00-092 at 15:53:22z and 16:39:09z for durations of 55.500 and 31.125 seconds respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) for burn 1 and 2 was 37.6% and 37.8% (62.4% and 62.2% on time). The remaining fuel is 604.570 kg, and the final apogee and perigee height is 354.76 km x 347.17 km.

#### **Flight Data System (FDS)/Command & Data Handling (C&DH)**

The frequency standard value is x'78A' with a current drift rate of -3.9  $\mu$ s/hr. On 00-087 at 16:20:12z, the UTCF was adjusted by -980  $\mu$ s. The new UTCF is 31535996.847522 seconds with a current drift value of -557.0  $\mu$ s.

Q-channel restarts occurred on 00-087 at 00:42:06z and 08:09:26z, 00-088 at 06:55:04z and 12:45:16z, 00-089 at 06:00:01z and 20:38:10z, 00-092 at 05:36:06z, and 00-093 at 18:42:20z.

An EDAC multi-bit error occurred on 00-088 at 08:08:07z.

There was a VIRS RT bus error on 00-090 at 14:13:38z. The cause is still under investigation.

The flywheel dwell incremented on 00-093 at 09:04:26z; the current value is x'11f'.

### **Reaction Control Subsystem (RCS)**

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

### **Power Subsystem**

The Power subsystem is operating nominally.

### **Electrical Subsystem**

The Electrical subsystem operated nominally during this period.

### **Thermal Subsystem**

The Thermal subsystem operated nominally during this period.

### **Deployables Subsystem**

The Deployables subsystem performed nominally during this period.

### **RF/Communications Subsystem**

The RF/Communications subsystem performed nominally during this period.

There was a generic late acquisition on the TDS 22:00z event on 00-088 (Late Acquisition Report #52). All data was recovered.

## **SPACECRAFT INSTRUMENTS**

### **CERES**

AB async testing continued this week, expanding the angles to 90° - 270°. See Anomaly #79.

An Internal calibration was done on 00-089 at 05:06:30z. The Elevation was stowed on 00-092 from 02:13z to 02:43z.

### **LIS**

LIS performed nominally during this time period.

A LIS command request was performed per MSFC request on 00-091 to reset the instrument, reconfigure to nominal, and then disable the heater auto-select.

## **PR**

PR performed nominally during this time period.

The list of Internal Calibration times over Australia in which PR was not radiating is below:

2000/087:03:05:36 - 03:07:45z  
2000/087:19:23:47 - 19:27:51z  
2000/088:01:54:16 - 01:56:30z  
2000/089:02:16:48 - 02:18:56z  
2000/090:01:05:13 - 01:07:26z  
2000/090:17:25:18 - 17:27:43z  
2000/091:01:27:57 - 01:30:04z  
2000/092:00:16:16 - 00:18:27z  
2000/092:16:34:08 - 16:38:45z  
2000/093:00:38:48 - 00:40:50z  
2000/093:23:27:23 - 23:29:33z

## **TMI**

TMI performed nominally during this time period.

## **VIRS**

VIRS performed nominally during this time period.

## **GROUND SYSTEM**

Release 8.1 will be re-tested by the FOT and will be implemented on all strings pending successful testing.

During the 04:34z TDE event on 00-089, the Q channel experienced some degradation in data quality which was attributed to a problem with the T1 line between WSGT and the NCC (Event #165 and TTR #22168). All data was recovered.

On 00-089 a GITT security scan was performed on string-3. String-1 will be scheduled to be scanned before the end of the month. The results report should be available by the end of June.

## **Event Reports**

#165: T1 Line Hit.

## **Generic Late Acquisition Reports (for TTRs 19639)**

#52: 00/088-22:00z; TDS/SSA1; 1 minute 22 seconds.

**New Anomaly**

No new Anomaly Reports were generated during this timeframe.

**Recurring Open Anomalies**

#79: CERES To Stall during Azimuth Rotation (See the CERES section).

Prepared by:  
Joseph Kowalski  
TRMM Systems Engineer

Approved by:  
Lou Kurzmilller  
FOT Manager